Coal and Coal Mining

Fifty million to 150 million years ago, the area was under a shallow sea. Over that period, peat deposits accumulated at the sea floor, eventually compacting to form coal. There are two primary coal fields in Sweetwater County: the Little Snake River Coal Field and the Henry's Fork Coal Field. These long-ago marine sediments created the ideal conditions for coal formation. The coal is primarily found in the Permian and Triassic periods, with significant deposits also in the Cretaceous and Paleozoic eras. The coal types include subbituminous coal and lignite. The coal is used for power generation and as a raw material in the chemical industry.

Distribution and Rank of Coal in Sweetwater County

Coal Resources

Sweetwater County has more than 300 million tons of recoverable coal. The coal is primarily found in the Henry's Fork Coal Field and the Little Snake River Coal Field. The coal is classified as subbituminous and lignite, with the majority being subbituminous. The coal is found in seams that are 1 to 3 feet thick. The coal resources are distributed across the county, with the majority being in the eastern and southern parts of the county. The coal is used for electricity generation, as the country is a major power producer.

Coal Resources and Seam Thicknesses

Average Coal Analyses

Today, DrumQina Coal Company operates the only active coal mine in the county. Their Kidd Creek No. 5 mine, which is located north of Rock Springs, is one of the largest coal mines in the state. The company mines subbituminous coal to produce electricity. They convert the weekly strip of lignite coal into a chemical grade coke, which is sold for use in electric furnaces.
The traditional geologic map shows the areal distribution of individual rock units and their contacts. It is a tool for categorical mapping, which is useful in geologic and engineering applications. However, mapping the areal distribution of surface geologic materials in a region is not as straightforward. The geology of the area is complex, and the areal distribution of surficial geologic materials is difficult to quantify. The areal distribution of surficial geologic materials is important for engineering and environmental activities.

The geologic map shows the areal distribution of surficial geologic materials in a region. The areal distribution of surficial geologic materials is important for engineering and environmental activities. The geologic map shows the areal distribution of surficial geologic materials in a region. The areal distribution of surficial geologic materials is important for engineering and environmental activities.

In the accompanying map, the surficial geologic materials are shown. The surficial geologic materials are shown in different colors to indicate the areal distribution of surficial geologic materials in a region. The surficial geologic materials are shown in different colors to indicate the areal distribution of surficial geologic materials in a region.

In the accompanying map, the surficial geologic materials are shown. The surficial geologic materials are shown in different colors to indicate the areal distribution of surficial geologic materials in a region. The surficial geologic materials are shown in different colors to indicate the areal distribution of surficial geologic materials in a region.
Land Ownership and Mineral Revenue

Originally, all of the land and minerals in Sweetwater County, Wyoming, were owned by the United States under the Homestead Act of 1862. Since then, some of the land has been transferred to the state or acquired in other ways. A portion of Sweetwater County's surface ownership in 1966 is shown in the following table. The Federal Government, the State of Wyoming, and local and county governments hold about 95% of all minerals on the surface of SWEETWATER COUNTY.

Mineral resources differ from tract to tract. Some mineral rights include the opportunity to drill and extract oil and gas only. Some are subject to federal, state, or local control and government. The economic and technical properties of different mineral deposits are often quite different. The area around the project is characterized by its economic and technical properties. The area is the center of economic and technical properties. The area is the center of economic and technical properties.

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Legend

- Public Lands
- State Lands
- Bureau of Reclamation Jurisdiction
- Private Lands
- Federally owned and administered lands
- Areas containing some private lands (not shown)

Dollar Value and Assessed Taxable Valuation of Mineral Production

Aerial view of the power plant being constructed near Sweetwater County, Wyoming, in the summer of 1961.

Photo courtesy of Pacific Power & Light Company, Portland, Oregon.
A History of the Trona Industry in Sweetwater County

Trona, Uranium, and Other Minerals

Trona production, mining, and transportation dates back to the early 1800s when salt was transported by horseback from the banks of the Green River in Wyoming. The transportation of salt to the markets of the Midwest was facilitated by the construction of the first railroad in the state in 1869. By the late 1800s, the Green River was a major source of salt for the surrounding area.

The discovery of uranium in the area in the 1930s led to the development of the uranium industry. Uranium mining began in the 1950s and continues to this day. Uranium is extracted from the uranium ore bodies by mining and milling.

The uranium industry has had a significant impact on the local economy and has contributed to the development of infrastructure in the region.

Some Undeveloped Mineral Resources in Sweetwater County

The state of Wyoming has a rich history of mineral exploration and development. Many mineral deposits remain undeveloped, offering potential for future mining. These resources include coal, oil, gas, and other minerals.

Uranium in the Northern Great Divide Basin

Uranium mining has been a significant industry in the Northern Great Divide Basin for several decades. The basin contains a significant amount of uranium resources, which are being explored and developed for extraction.

The uranium industry has had a significant impact on the local economy and has contributed to the development of infrastructure in the region.

Radioactive Surface Occurrences, Great Divide Basin

Radioactive surface occurrences are found in the Great Divide Basin of Wyoming. These occurrences are primarily in the form of uranium and other radioactive elements. The occurrence of radioactive surface occurrences is a concern for the environment and human health.

The radioactive surface occurrences are being monitored and studied to ensure that they do not pose a significant risk to the environment or public health.

REFERENCES

**Sand, Gravel, and Crushable Aggregate Rock**

In many areas underlying populated development and population growth, rock is the only source of gravel and sand in the area. As the demand for gravel and sand increases, the supply of suitable material is often limited. The value of a deposit of sand, gravel, or crushed rock depends mainly on the size and shape of the deposit, the quality of the material, and the proximity of the deposit to the market. The market demand for gravel and sand is also influenced by the availability of alternative sources of aggregate in the area.

**Major Gravel Deposits**

- Gravel deposits are often found in alluvial fans, riverbeds, and floodplains. These deposits are usually large and have good access to the market. The material is generally well sorted and has a high proportion of fine material.

- Gravel deposits are also found in terrace deposits, which are formed by the deposition of sediment during periods of reduced river flow. These deposits are often large and have good access to the market. The material is generally well sorted and has a high proportion of fine material.

**Major Sand Deposits**

- Sand deposits are often found in alluvial fans, riverbeds, and floodplains. These deposits are usually large and have good access to the market. The material is generally well sorted and has a high proportion of fine material.

**Volcanic Rocks, Best Source of Crushable Rock**

- Volcanic rocks are often found in extrusive igneous rocks, such as lavas, breccias, and tuffs. These rocks are often hard and durable, making them a good source of crushed rock.

**Clay**

- Clay deposits are often found in alluvial fans, riverbeds, and floodplains. These deposits are usually large and have good access to the market. The material is generally well sorted and has a high proportion of fine material.

**Cement Rock**

- Cement rock is often found in alluvial fans, riverbeds, and floodplains. These deposits are usually large and have good access to the market. The material is generally well sorted and has a high proportion of fine material.

**Potential Construction Materials in Sweetwater County**

<table>
<thead>
<tr>
<th>Stratigraphic Unit</th>
<th>Thickness</th>
<th>Character</th>
<th>Construction Materials Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alluvium</td>
<td>0-30'</td>
<td>Channel alluvium and flood-plain deposits of silt, clay, sand, gravel, and boulders.</td>
<td>Good source of sand and gravel. Better halos at or near ground surface.</td>
</tr>
<tr>
<td>Sand Rocks</td>
<td>0-10'</td>
<td>Wind blown sand, current to south-western slope.</td>
<td>Good source of sand and gravel.</td>
</tr>
<tr>
<td>Glacial Deposits</td>
<td>0-100'</td>
<td>Deformed to poorly sorted, medium to fine rounded, clay to boulder size, gray to dark gray.</td>
<td>Good source of sand and gravel. Good source of construction materials.</td>
</tr>
<tr>
<td>Terrace Deposits</td>
<td>0-40'</td>
<td>Clay, silt, sand, gravel, and boulders. Glacial till overlying boulders of sandstone.</td>
<td>Good source of sand and gravel.</td>
</tr>
<tr>
<td>Tertiary Volcanics</td>
<td>0-350'</td>
<td>Intrusive and extrusive lavas, flows, and tuffs.</td>
<td>Good source of sand and gravel. Excellent source of large quantities of crushed rock.</td>
</tr>
<tr>
<td>Brown Creek Formation</td>
<td>0-350'</td>
<td>Alluvial fan deposits of silt, clay, sand, gravel, and boulders.</td>
<td>Good source of sand and gravel.</td>
</tr>
<tr>
<td>Sandstone</td>
<td>0-100'</td>
<td>Poorly sorted, medium to fine grained sandstone, siltstone, and shale.</td>
<td>Good source of sand and gravel.</td>
</tr>
<tr>
<td>Gravel Formation</td>
<td>0-100'</td>
<td>Small gravel, medium to coarse sand, and pebbles.</td>
<td>Good source of sand and gravel.</td>
</tr>
<tr>
<td>Green River Formation</td>
<td>0-100'</td>
<td>Thin-bedded, sandstone, siltstone, and shale, with some fine sandstone and conglomerate.</td>
<td>Good source of sand and gravel.</td>
</tr>
<tr>
<td>Ashpit Formation</td>
<td>0-100'</td>
<td>Variegated siltstone, sandstone, and shale, with some fine sandstone and conglomerate.</td>
<td>Good source of sand and gravel.</td>
</tr>
<tr>
<td>Fort Wash Formation</td>
<td>0-100'</td>
<td>Variegated siltstone, sandstone, and shale, with some fine sandstone and conglomerate.</td>
<td>Good source of sand and gravel.</td>
</tr>
</tbody>
</table>

**REFERENCES**


**Cement Rock**

- Cement rock is often found in alluvial fans, riverbeds, and floodplains. These deposits are usually large and have good access to the market. The material is generally well sorted and has a high proportion of fine material.

**Potential Construction Materials in Sweetwater County**

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<th>Character</th>
<th>Construction Materials Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Permian</td>
<td>0-100'</td>
<td>Siltstone, sandstone, and shale.</td>
<td>Good source of sand and gravel.</td>
</tr>
<tr>
<td>Bishop Conglomerate</td>
<td>0-100'</td>
<td>Poorly sorted, moderately to firmly cemented fine-grained sandstone, siltstone, and shale.</td>
<td>Good source of sand and gravel.</td>
</tr>
<tr>
<td>Bridger Formation</td>
<td>0-100'</td>
<td>Gray to dark gray, siltstone, siltstone, claystone, and shale, with some fine sandstone and conglomerate.</td>
<td>Good source of sand and gravel.</td>
</tr>
<tr>
<td>Green River Formation</td>
<td>0-100'</td>
<td>Thin-bedded, sandstone, siltstone, and shale, with some fine sandstone and conglomerate.</td>
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</tr>
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</table>

**REFERENCES**

Geology of Sweetwater County

Sweetwater County presents a mix of diverse geologic formations. To the northwest, the South Fork River Valley is dominated by the Fossil River Formation, which consists of sandstone and shale. To the east, the Teton Formation is prominent, characterized by its thin beds of sandstone and limestone. The central part of the county is marked by the Wind River Formation, a series of interbedded sandstone, shale, and limestone units. The Wind River Range, located in the south, is a part of the Rocky Mountains and is composed of various metamorphic and igneous rocks.

The geologic map and cross-section diagrams provide a detailed view of the subsurface geology, showing the distribution of different formations and their relationships. The map and section diagrams are essential tools for understanding the geological history and processes that have shaped the landscape of Sweetwater County.

References:

Tenth Midwest Conference Exposition - Green River Basin, 115th Annual Fall Meeting, Wyoming Geol. Assoc., Box 745, Casper, WY, 82602-0745
Wyoming Geological Association, 1980

Stratigraphic Column

<table>
<thead>
<tr>
<th>Epoch</th>
<th>Formation</th>
<th>Age Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precambrian</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paleozoic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mesozoic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cenozoic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Photographs at the back cover of Sweetwater County's geologic map were reproduced from USGS satellite data, which shows over 200 identifiable geologic features. The map is designed to be used in conjunction with the cross-section diagrams to provide a comprehensive understanding of the geological features within the county.
Availability of Ground Water in Sweetwater County

Surface Water

The major water source currently utilized for domestic, agricultural, and industrial purposes in Sweetwater County is the Green River and the river's tributaries. The Green River is the major water resource in the county. All the major water resources in the county are found within the Green River Basin.

Watershed Divide

Major Streams, Their Mean Flows and Salinities

Drainage to the Atlantic Ocean by way of the
Mississippi River, Ohio River, and Gulf of Mexico

Drainage to the Pacific Ocean by way of the
Snake River, Missouri River, and Gulf of California

Legend

Water Table Conditions

Available groundwater

Groundwater not available for human use

Artesian Conditions

Groundwater artesian pressure

No pressure

Ground Water

The ground water resources of Sweetwater County are largely unexploited. The small amount of water developed for irrigation and livestock by way of artesian wells was used by the early settlers. In most parts, no attempt has been made to tap the major water resources. In general, the water table is normally rechargeable for human use.

Groundwater having less than 3000 ppm dissolved solids should be generally drinkable.

References


ERRATA

On the COAL PLATE, the coal bed names Paehlgia #1 and #2 shown for the Jim Bridger coal mine should be Deadman #1 and #2.